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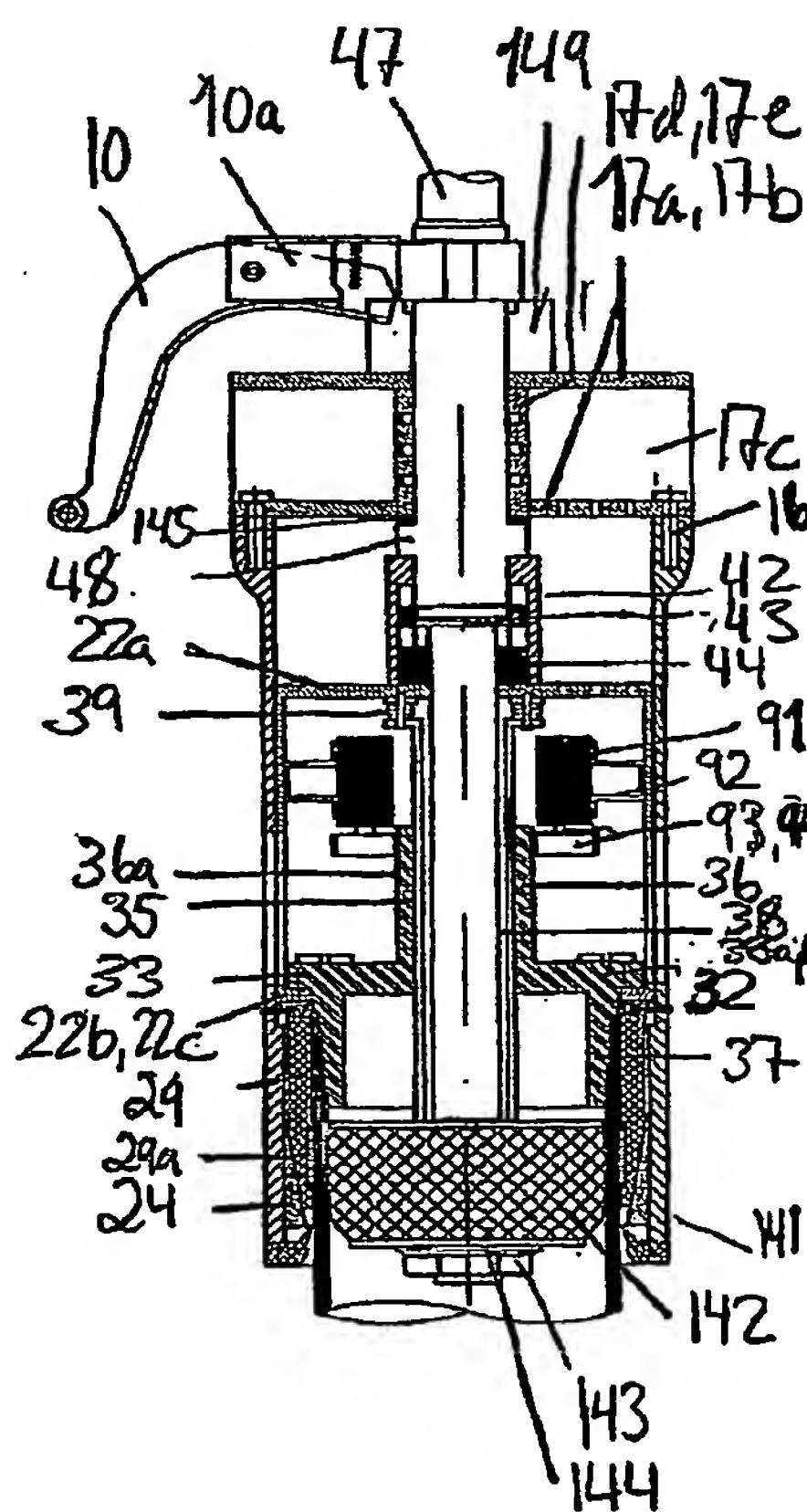
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[Continued on next page]

(54) Title: INTERNAL RUNNING ELEVATOR



(57) Abstract: The invention relates to a lifting tool for handling of a pipe-string (2) pipe length (3, 4) for joining and lowering or lifting and disassembly of conductor, casing, risers, drill string, or similar in a bore hole (160) or well (160). The invention also relates to a lifting system for lifting or lowering pipe length (3, 4) and pipe-string (2), for joining and lowering or lifting and disassembling of conductor, casing, risers, drill string, or similar in a bore hole (160) or well (160). The lifting system comprises a lifting tool with a lifting part (20) and a support part (5) connected to an elevator apparatus (70) which is mounted to a top drive (60) and where the lifting tool lifting part (20) shall operate in conjunction with a power slip (150) which is configured to receive and hold in a fixed position a standing pipe length or pipe-string (2). Finally the invention comprises a method for lifting of pipe length for joining of pipe length (3, 4) to a pipe-string (2), including conductor, casing, risers, or similar for use in a bore hole or well (160) with the use of a lifting system and lifting tool according to the invention.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000146

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: E21B 19/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: E21B, B66C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE, DK, FI, NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3278220 A (A.B. WILSON ET AL), 11 October 1966 (11.10.1966), whole document --	1-3, 5-13, 15-17, 19-36
X	US 3265431 A (D.L.B. NORMAN), 9 August 1966 (09.08.1966), whole document --	37-45, 48-50, 52-54
X	EP 1099824 A2 (CASTILLE, D.J. ET AL), 16 May 2001 (16.05.2001), whole document --	55-56, 58-61, 63-73
X	WO 9911902 A1 (WEATHERFORD/LAMB, INC. ET AL), 11 March 1999 (11.03.1999), whole document --	82
Y	--	83-92

 Further documents are listed in the continuation of Box C. See patent family annex.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3857450 A (W. GUIER), 31 December 1974 (31.12.1974), whole document --- -----	83-92

INTERNATIONAL SEARCH REPORT
Information on patent family members

30/10/2004

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US 3278220 A 11/10/1966 NONE

US 3265431 A 09/08/1966 NONE

EP 1099824 A2 16/05/2001

AU	2739697	A	07/08/1998
CA	2274650	A	23/07/1998
DE	69706196	D,T	29/11/2001
DE	69724670	D,T	29/07/2004
DK	966592	T	22/10/2001
DK	1099824	T	29/12/2003
EP	0966592	A,B	29/12/1999
NO	313967	B	06/01/2003
NO	993518	A	16/09/1999
US	5791410	A	11/08/1998
US	5909768	A	08/06/1999
WO	9831914	A	23/07/1998

WO 9911902 A1 11/03/1999

AU	8874098	A	22/03/1999
CA	2302231	A	11/03/1999
DE	69811517	D,T	06/11/2003
EP	1012439	A,B	28/06/2000
GB	9718543	D	00/00/0000
US	20040003490	A	08/01/2004
US	20040035587	A	26/02/2004

US 3857450 A 31/12/1974 NONE